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## SEQUENCE LISTING

<110> Glaxo Group Limited  
 HAMBLIN, Paul Andrew  
 ROCHA DEL CURA, Maria de los Angeles

<120> Vaccines

<130> VB60033

<140> PCT/EP2004/002007

<141> 2004-02-26

<150> GB0304634.9

<151> 2003-02-28

<160> 16

<170> FastSEQ for Windows Version 4.0

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<211> 20

<212> PRT

<213> Homo sapiens

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<213> Homo sapiens

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 aaggagactt cggctaccca gagaagttca gtgccagct ctactgagaa gaatgctgtg 180  
 agtatgacca gcagcgtaact ctccagccac agccccggtt caggctcctc caccactcag 240  
 ggacaggatg tcactctggc cccggccacg gaaccagctt caggttcagc tgccacctgg 300  
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 gccacgatg tcacctcagc cccggacaac aagccagccc cgggctccac cgcccccca 420  
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 gctaccaga gaagttcagt gccagctct actgagaaga atgctgtgag tatgaccagc 180  
 agcgtaactc ccagccacag ccccggttca ggctcctcca ccactcaggg acaggatgtc 240  
 actctggccc cggccacgga accagcttca ggttcagctg ccacctgggg acaggatgtc 300  
 acctcggtcc cagtcaccag gccagccctg ggctccacca ccccgccagc ccacgatgtc 360  
 acctcagccc cggacaacaa gcccaatgtc acctcggcct caggctctgc atcaggctca 420

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agcaccaaga	ctgatgccag	tagcactcac	catagcacgg	tacctcctct	cacctcctcc	600
aatcacagca	cttctcccca	gttgtctact	gggtgtctct	tctttttcct	gtcttttcac	660
atttcaaacc	tccagtttaa	ttctctcttg	gaagatccca	gcaccgacta	ctaccaagag	720
ctgcagagag	acattttctga	aatgtttttg	cagatttata	aacaaggggg	ttttctgggc	780
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gaaggtacca	tcaatgtcca	cgacgtggag	acacagttca	atcagtataa	aacggaagca	900
gcctctcgat	ataacctgac	gatctcagac	gtcagcgtga	gtgatgtgcc	atttcctttc	960
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aagaactacg	ggcagctgga	catctttcca	gcccgggata	cctaccatcc	tatgagcgag	1140
tacccacct	accacacca	tgggcgctat	gtgccccta	gcagtaccga	tcgtagcccc	1200
tatgagaagg	tttctgcagg	taatgggtggc	agcagcctct	cttacacaaa	cccagcagtg	1260
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gcaaccacgc	gcagctccgt	gcccagctcc	accagaaaaa	acgctgtgag	catgacgtcc	180
agtgtcctct	ctagccatag	ccccggctct	gggagcagta	ccaccagggg	ccaggacgtg	240
actctcggcc	ccgctacgga	gcccgtttct	ggctccgccc	ccacctgggg	ccaggacgtg	300
acctctgtgc	cggtcacacg	ccctgctctg	ggctctacca	ctcctcctgc	ccatgacgtg	360
acctcggctc	cggacaataa	gcccacgtg	acgagtgcca	gcgggagcgc	ctcgggggtcc	420
gccagtaccc	tggtgcataa	cgggaccagt	gctagggcca	ccaccacccc	cgcgtcgaag	480
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agcaccaaga	ccgacgcttc	ttccacacat	catagcaccg	tgccaccact	caccagctcc	600
aaccattcca	ccagccccca	gctgagcacc	ggagtgtcct	tcttcttctc	gagcttccat	660
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gtgctggtgg	ccctggccat	cgtgtacctg	atcgccctgg	ccgtctgtca	atgcaggcgc	1080
aagaactacg	gccagctcga	catcttccca	gctcgggata	cctatcatcc	catgagcgag	1140
tacccacct	accacacca	tggccgctac	gttctctcct	ccagcaccga	ccgcagccct	1200
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<210> 12

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<400> 12

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gctaccacagc	gcagctctgt	gccttccagc	acggagaaga	acgtgtgtgag	tatgacttcc	180
tccgtgctga	gctcccatag	ccccggctcg	ggcagctcca	ccaccaggg	gcaggacgtg	240
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agcaccaaaa	ccgacgcctc	tagcaccac	cactccacgg	tgccccccct	gacctccagc	600
aaccattcta	cctcccccca	gctgagcacg	gggtgtgagct	ttttcttct	gtccttccat	660
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aagaactatg	ggcagttgga	tatcttcccc	gccagggaca	cctaccaccc	catgtccgag	1140
tacccacac	accacaccca	cggccgctat	gtccctccct	cctcgaccga	ccgctccctc	1200
tacagaagg	tgagcgccgg	caacggagtc	agtcctctgt	cctacaccaa	ccctgccgtg	1260
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<211> 1330

<212> DNA

<213> Artificial Sequence

<220>

<223> codon modified DNA

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ccggcgggcg	agaaggagac	cagtgtctacc	cagcgcagct	ctgtgccttc	cagcacggag	180
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 cacggccgct atgtccctcc ctctcgacc gaccgctccc cttacgagaa ggtgagcgcc 1740  
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 ctgtctagat gactcgag 1818

<210> 15  
 <211> 599  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> 7VNTR MUC-1 (plasmid JNW656)

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 20 25 30  
 Pro Gly Gly Glu Lys Glu Thr Ser Ala Thr Gln Arg Ser Ser Val Pro  
 35 40 45  
 Ser Ser Thr Glu Lys Asn Ala Val Ser Met Thr Ser Ser Val Leu Ser  
 50 55 60

Ser	His	Ser	Pro	Gly	Ser	Gly	Ser	Ser	Thr	Thr	Gln	Gly	Gln	Asp	Val
65					70					75					80
Thr	Leu	Ala	Pro	Ala	Thr	Glu	Pro	Ala	Ser	Gly	Ser	Ala	Ala	Thr	Trp
				85					90					95	
Gly	Gln	Asp	Val	Thr	Ser	Val	Pro	Val	Thr	Arg	Pro	Ala	Leu	Gly	Ser
			100					105					110		
Thr	Thr	Pro	Pro	Ala	His	Asp	Val	Thr	Ser	Ala	Pro	Asp	Asn	Lys	Pro
		115					120					125			
Ala	Pro	Gly	Ser	Thr	Ala	Pro	Pro	Ala	His	Gly	Val	Thr	Ser	Ala	Pro
	130					135					140				
Asp	Thr	Arg	Pro	Ala	Pro	Gly	Ser	Thr	Ala	Pro	Pro	Ala	His	Gly	Val
145					150					155					160
Thr	Ser	Ala	Pro	Asp	Thr	Arg	Pro	Ala	Pro	Gly	Ser	Thr	Ala	Pro	Pro
				165					170					175	
Ala	His	Gly	Val	Thr	Ser	Ala	Pro	Asp	Thr	Arg	Pro	Ala	Pro	Gly	Ser
			180					185					190		
Thr	Ala	Pro	Pro	Ala	His	Gly	Val	Thr	Ser	Ala	Pro	Asp	Thr	Arg	Pro
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	210					215					220				
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225					230					235					240
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				245					250					255	
Ala	His	Gly	Val	Thr	Ser	Ala	Pro	Asp	Thr	Arg	Pro	Ala	Pro	Gly	Ser
			260					265					270		
Thr	Ala	Pro	Pro	Ala	His	Gly	Val	Thr	Ser	Ala	Pro	Asp	Asn	Arg	Pro
	275						280					285			
Ala	Leu	Gly	Ser	Thr	Ala	Pro	Pro	Val	His	Asn	Val	Thr	Ser	Ala	Ser
	290					295					300				
Gly	Ser	Ala	Ser	Gly	Ser	Ala	Ser	Thr	Leu	Val	His	Asn	Gly	Thr	Ser
305					310					315					320
Ala	Arg	Ala	Thr	Thr	Thr	Pro	Ala	Ser	Lys	Ser	Thr	Pro	Phe	Ser	Ile
				325					330					335	
Pro	Ser	His	His	Ser	Asp	Thr	Pro	Thr	Thr	Leu	Ala	Ser	His	Ser	Thr
			340					345					350		
Lys	Thr	Asp	Ala	Ser	Ser	Thr	His	His	Ser	Thr	Val	Pro	Pro	Leu	Thr
	355						360					365			
Ser	Ser	Asn	His	Ser	Thr	Ser	Pro	Gln	Leu	Ser	Thr	Gly	Val	Ser	Phe
	370					375					380				
Phe	Phe	Leu	Ser	Phe	His	Ile	Ser	Asn	Leu	Gln	Phe	Asn	Ser	Ser	Leu
385					390					395					400
Glu	Asp	Pro	Ser	Thr	Asp	Tyr	Tyr	Gln	Glu	Leu	Gln	Arg	Asp	Ile	Ser
				405					410					415	
Glu	Met	Phe	Leu	Gln	Ile	Tyr	Lys	Gln	Gly	Gly	Phe	Leu	Gly	Leu	Ser
			420					425					430		
Asn	Ile	Lys	Phe	Arg	Pro	Gly	Ser	Val	Val	Val	Gln	Leu	Thr	Leu	Ala
		435					440					445			
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			500					505					510		
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Val Pro Pro Ser Ser Thr Asp Arg Ser Pro Tyr	Glu Lys Val Ser Ala	
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